MONTHLY WEATHER REVIEW.

Editor: Prof. CLEVELAND ABBE.

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INTRODUCTION.

The MONTHLY WEATHER REVIEW for August, 1900, is based on reports from about 3,097 stations furnished by employees and voluntary observers, classified as follows: regular stations of the Weather Bureau, 158; West Indian service stations, 12; special river stations, 132; special rainfall stations, 48; voluntary observers of the Weather Bureau, 2,562; Army post hospital reports, 18; United States Life-Saving Service, 9; Southern Pacific Railway Company, 96; Canadian Meteorological Service, 32; Mexican Telegraph Service, 20; Mexican voluntary stations, 7; Mexican Telegraph Company, 3. International simultaneous observations are received from a few stations and used, together with trustworthy newspaper extracts and special reports.

Special acknowledgment is made of the hearty cooperation of Prof. R. F. Stupart, Director of the Meteorological Service of the Dominion of Canada; Mr. Curtis J. Lyons, Meteorologist to the Hawaiian Government Survey, Honolulu; Señor Manuel E. Pastrana, Director of the Central Meteorological and Magnetic Observatory of Mexico; Camilo A. Gonzales, Director-General of Mexican Telegraphs; Mr. Maxwell Hall, Government Meteorologist, Kingston, Jamaica; Capt. S. I. Kimball, Superintendent of the United States Life-Saving Service; and Commander Chapman C. Todd, Hydrographer, United States Navy.

The REVIEW is prepared under the general editorial supervision of Prof. Cleveland Abbe. The current number has been put through the press by Prof. Alfred J. Henry, the Editor being absent from the city.

Attention is called to the fact that the clocks and self-registers at regular Weather Bureau stations are all set to seventy-fifth meridian or eastern standard time, which is exactly five hours behind Greenwich time; as far as practicable, only this standard of time is used in the text of the REVIEW, since all Weather Bureau observations are required to be taken and recorded by it. The standards used by the public in the United States and Canada and by the voluntary observers are believed to conform generally to the modern international system of standard meridians, one hour apart, beginning with Greenwich. The Hawaiian standard meridian is 157° 30′ or $10^h\ 30^m$ west of Greenwich. Records of miscellaneous phenomena that are reported occasionally in other standards of time by voluntary observers or newspaper correspondents are sometimes corrected to agree with the eastern standard; otherwise, the local standard is mentioned.

FORECASTS AND WARNINGS.

By Prof. E. B. GARRIOTT, in charge of Forecast Division.

The general atmospheric conditions which attend periods of abnormal heat over the northeastern quarter of the United States prevailed from early in July to the second decade of September, 1900. These conditions are recognized in the distribution of air pressure, as indicated by the barometer, and by a lack of strength and activity on the part of areas of low barometer.

During ten weeks of the summer of 1900 the barometer was persistently high over the Southeastern States and low in the Northwest, and the eastern half of the country was not visited by general storms.

The effect of these prevailing conditions was a stagnation of air over the Northeastern States; and a result of this stagnated condition was that air near the surface of the earth became superheated, since the intensity of the sun's rays was broken neither by extensive cloud areas nor by the presence in the air of any considerable amount of moisture.

Considered as a whole, the month of August, 1900, was the warmest August on record generally from the upper Mississippi Valley over the Lake region, Ohio Valley, and Middle Atlantic States. This high record was accomplished not by individual maximum temperatures which exceeded those previously noted, but by the number of successive days on which the temperature ranged in the nineties. Thus, at Washington, D. C., there were fourteen consecutive days with a maximum temperature of 90° or above, while during the seven-day period—August 6 to 12, inclusive—the daily maximum temperatures did not fall below 96°, and an extreme maximum of 101° was reached. This was the warmest seven-day period ever experienced in Washington, and the records for groups of days at various points were similarly broken throughout the heated area.

The Weather Bureau, in its regular detailed twice-daily forecasts and in special bulletins issued from time to time, announced indicated continuations of high temperature several days in advance, and also temporary breaks in the heat, due to the development of local storms or the passage of weak general disturbances. Finally, on September 12, a special bulletin was issued which definitely announced that the heated period would be permanently broken within the next twenty-four hours. The evidence which furnished a base for this forecast proved trustworthy, and the great mass of heated air which had been practically undisturbed for more than two months was effectually broken up and dispersed by the passage over the Great Lakes and the St. Lawrence Valley of the storm which devastated Galveston, Tex., on September 8. Detailed records of high temperatures registered throughout the heated area are presented under the heading The Hot Weather of August, 1900, in another part of this REVIEW.

No storm warnings were required for the Atlantic and Pacific coasts, the Lake region, and the West Indies during